AMENDMENTS TO THE CLAIMS:

Please amend claims 1 and 4 and add newly written claims 15 and 16 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Beam steering apparatus comprising:

an antenna array having a plurality of antenna elements, the antenna elements being spatially arranged with respect to one another and being operable to receive signals;

signal modulating means for modulating signals received by said antenna elements onto different respective optical carriers, said signal modulating means comprising a plurality of optical modulators, each of which is associated with a different one of the antenna elements ~~and operable to modulate signals received thereby onto a different respective optical carrier~~;

delay means ~~arranged to apply~~for applying an amount of delay to modulated optical signals passing therethrough in respect of at least one ~~or more~~ of the antenna elements;

demultiplexing means ~~operable to separate~~for separating the modulated optical carriers within an optical signal output by the delay means;

demodulating means ~~operable to demodulate~~for demodulating the signal received by each antenna element from the respective separated modulated optical carrier; and

combining means ~~operable to combine~~for combining the demodulated received signals output by the demodulating means,

wherein the delay means comprises:

a plurality of first delay units, each of which is associated with a different one of the antenna elements and is operable to apply selectively either a first amount of delay or a second amount of delay to the respective modulated optical signal passing therethrough; and

a plurality of second delay units, each of which is linked in series to at least one of the first delay units and is operable to apply selectively either a third amount of delay or a fourth amount of delay to modulated optical signals passing therethrough, and wherein at least one of said second delay units is connected in series to at least two of the first delay units.

2. (original) Beam steering apparatus according to claim 1, wherein each of said optical carriers has a predetermined wavelength that is different in respect of each antenna element.

3. (original) Beam steering apparatus according to claim 2, wherein said demultiplexing means comprise a wavelength division demultiplexer.

4. (currently amended) Beam steering apparatus according to claim 1, wherein a first difference, between the first and second amounts of delay, is different ~~to~~from a second difference, between the third and fourth amounts of delay.

5. (original) Beam steering apparatus according to claim 4, wherein the said second difference of delay is greater than the said first difference.

6. previously presented) Beam steering apparatus according to claim 1, further comprising optical combining means arranged to combine the modulated optical signals modified by said at least two of the first delay units.

7. (original) Beam steering apparatus according to claim 6, wherein the optical combining means are arranged to combine the modulated optical signals delayed by said at least two of the first delay units and to output the combined signal into a single optical waveguide for input to said at least one of said second delay units.

8. (previously presented) Beam steering apparatus according to claim 1, wherein each of said first and second delay units comprise an opto-electrical switching device arranged to selectively apply respective said amounts of delay to a modulated optical carrier passing therethrough.

9. (previously presented) Beam steering apparatus according to claim 1, wherein the antenna elements are spatially arranged so as to form a linear array.

10. (previously presented) Beam steering apparatus according to claim 1, wherein the antenna elements are spatially arranged so as to form a circular array.

11. (previously presented) Beam steering apparatus according to claim 1, wherein the antenna elements are spatially arranged so as to form a planar array.

12. (original) A method for combining signals received by antenna elements of an antenna array, the antenna array having a plurality of said antenna elements arranged spatially with respect to one another, the method comprising the steps of:

(i) for each antenna element of the array, modulating a signal received by the antenna element onto a different respective optical carrier, each said optical carrier having a different wavelength;

(ii) passing each of the modulated optical signals through first delaying means comprising a plurality of first delay units, a different one of said plurality of first delay units being provided in respect of each antenna element to apply selectively either a first or a second amount of delay to the respective modulated optical signal passing therethrough;

(iii) passing the modulated optical signals delayed by said first delaying means through second delaying means comprising a plurality of second delay units, wherein at least one of said second delay units is linked to at least two of said first delay units and the modulated optical signals output by said at least two of said first delay units are collected into the same optical waveguide for input to said at least one of said second delay units, each said second delay unit being arranged to apply selectively either a third or a fourth amount of delay to optical signals passing therethrough;

(iv) separating the delayed modulated optical carriers, output by the second delaying means, in a demultiplexer;

(v) demodulating the signal received by each of said antenna elements from the respective separated delayed modulated optical carrier; and

(vi) combining the demodulated signals to output a combined signal as received by the antenna array.

13. (original) A method according to Claim 12, wherein a first difference, between the first and second amounts of delay, is different to a second difference, between the third and fourth amounts of delay.

14. (original) A method according to Claim 13, wherein said second difference is greater than the said first difference.

15. (new) Beam steering apparatus comprising:

an antenna array having a plurality of antenna elements, the antenna elements being spatially arranged with respect to one another and being operable to receive signals;

signal modulating means comprising a plurality of optical modulators, each of which is associated with a different one of the antenna elements and operable to modulate signals received thereby onto a different respective optical carrier;

delay means arranged to apply an amount of delay to modulated optical signals passing therethrough in respect of one or more of the antenna elements;

demultiplexing means operable to separate the modulated optical carriers within an optical signal output by the delay means;

demodulating means operable to demodulate the signal received by each antenna element from the respective separated modulated optical carrier; and

combining means operable to combine the demodulated received signals output by the demodulating means,

wherein the delay means comprise:

a plurality of first delay units, each of which is associated with a different one of the antenna elements and is operable to apply selectively either a first amount of delay or a second amount of delay to the respective modulated optical signal passing therethrough; and

a plurality of second delay units, each of which is linked in series to at least one of the first delay units and is operable to apply selectively either a third amount of delay or a fourth amount of delay to modulated optical signals passing therethrough, wherein at least one of said second delay units is connected in series to at least two of the first delay units, wherein each of said optical carriers has a predetermined wavelength that is different in respect of each antenna element.

16. (new) Beam steering apparatus according to claim 15, wherein said demultiplexing means comprises a wavelength division demultiplexer.